NOTATING INDIAN DANCE

Rudolph Benesh
with Joan Benesh and Marianne Balchin

In the West the transmission of the heritage of ballet has suffered very much in the past from the lack of a satisfactory system of notation. Works were in fact transmitted through the memories of dancers and ballet-masters, and a small number have survived into the 20th century from earlier centuries; but the vast majority got lost when fashions changed, and even in those which survived much of the original choreography was lost. Even a number of major works created in the 20th century (such as Nijinsky's original version of *The Rite of Spring*) have fallen into oblivion.

In India, transmission without notation has been far more effective than in the West, because of the special relationship between *guru* and pupil and the employment of systems of teaching aimed at ensuring the preservation of ancient traditions in all their complexity, with complete fidelity. This made possible the transmission of the Vedas for over two thousand years without their being written down, and the preservation right up to the present time of an almost unimaginably rich heritage of the various classical styles of dance and dance-drama. Folk-dances too have been preserved in enormous variety. But now the preservation of this rich heritage is in doubt. There are social changes taking place in India which imperil the preservation of important sections of this vast and priceless heritage: changes in audiences, in patrons, in dancers,

in the relationship between *gurus* and pupils, in the customs of regional groups performing folk-dances. So the traditional system of transmission can no longer be relied on to pass on the whole of the great heritage from the past, and the question of movement notation has become a topical one in India, as it has been in the West for some time.

In fact, the need for an accurate and efficient system of dance notation has been felt in the West for centuries. There were many attempts at developing notations, and some were used to a certain extent for a few years. But none of them achieved extensive or lasting adoption, for they all failed to cope with the problems involved, which in fact were far greater than those encountered by the men who created notations used for speech, music and mathematics. Here in fact was a problem which could not be solved until the emergence of new branches of science in the forties of this century — scientific disciplines now known as information theory (or communication theory) and ergonomics (the study of man-machine relationships).

In terms of information theory, the amount of information needed to give an accurate record on two-dimensional paper of the movements of each part of the body, in three dimensions of space and one of time, is of astronomical dimensions — very much greater than the amount needed to record speech or music. That is why, long after speech and music were being commonly written, the dance remained illiterate. Those who attempted to record movement came up against what seemed an insoluble dilemma. If they tried for a notation which was simple and practical, they were unable to record the dance-movements precisely or completely. If they tried to record movements precisely and in all detail, they had to use a large number of symbols, and this made the records too cumbersome to be easily read or used.

The Problem

When, in 1947, my fiancee Joan asked me to create for her a dance notation which she could use for choreography, I started by analysing all the qualities which a really practical movement notation must possess — the problem of notating dance being clearly best considered as one aspect of the more general problem of recording any form of human

movements. I soon saw that in order to combine all the qualities mentioned above, a notation would need to be basically visual — using marks on a matrix and thus avoiding any proliferation of symbols. The five-line staff of music offered an ideal matrix for this purpose — and it also offered a simple means of recording the flow in time, with the movement being read horizontally across the page like music and almost all alphabets. In fact no more than six very simple marks or signs were needed to record any imaginable position of the limbs. This basic simplicity was all-important, for it meant that even when used to record very complex movements the notation would still be easy to write and read. (In fact the imagination can easily fill in the limbs and body between the signs for hands, feet, elbows and knees: see Figs. 1 — 4).

Though these six signs provided a complete and accurate record of salient positions, something more was needed to cope with the great complexity of possible movements between salient positions, and so I added movement lines showing the path of movement. Like the basic signs, these are completely visual; in fact they summarise an infinite number of intermediate positions, thus adding greatly to the economy and speed of the notation.

Of course a great deal of further development was needed to provide a complete record of the movement. It was necessary to provide precise, simple and economic methods of recording the positions of the head, shoulders, body and fingers, as well as wrist and ankle flexions, eye-movements and so on; location in working area; direction of facing and direction of movement; the intricacies of contact (with the ground, with objects, with a partner); rhythm, phrasing, dynamics and other qualities of movement; movements of groups and combinations of groups and soloists in a complete score, in co-ordination with the music. At this time Joan Benesh became a member of the Royal Ballet and we collaborated in this work of development, with her testing the solution of every problem on ballets in the Royal Ballet's repertoire (which fortunately included a great variety of styles of dancing and choreography). Any solution that did not work under tough professional conditions was rejected.

We held fast to a number of fundamental principles in this work of development. Every part of the notation had to be visual, and grow logically out of other aspects of the system. Economy and speed were fostered by eliminating almost all redundancy: for example, positions of limbs were shown only when they changed (see Fig. 5) and movement rhythms were shown only when they were irregular (see Fig. 10).

This work took us into completely new territory, solving problems of which even the existence could not before have been suspected because movement notation had never before been used in this way. For the first time it became possible to make a detailed study and comparative analysis of complex movements, and so a new discipline came into existence, choreology: that is, the scientific and aesthetic study of all forms of movement through notation.

Application in Ballet

By 1955 the notation was complete in all essentials, and was adopted by the Royal Ballet for teaching to students in its school and for use in its two companies. This led to a complete reorganisation of methods of rehearsal in the company: all new ballets were notated as they were being created and revivals of old ballets were carried out by a choreologist (highly trained notator) using a score. This new system had great advantages, both artistic and financial: it made possible for the first time complete accuracy in a revival, and the limited rehearsal time could be used far more efficiently than in the past. The choreologist also proved invaluable in teaching their roles to replacement dancers and second casts.

News of the remarkable savings in time and money (and also the great artistic advantages) which the Royal Ballet was obtaining from the use of notation spread around the dance world, and other companies in various countries began to ask for choreologists.

At the same time developments in other fields also began to produce a demand for choreologists. A display of the notation at the Brussels Universal Exposition in 1958 aroused great interest among French specialists in work study and the training of skilled operatives,

and they commissioned me to develop the notation for the recording and analysis of industrial movements. In medicine too there were important developments — notably in physiotherapy and the study of the movements of children suffering from cerebral palsy. It also became obvious that the notation was going to be needed for ethnochoreology — the study of the movements (including the dances) of various peoples all over the world. And dance schools of various kinds began to ask for choreologists to train their students in notation, preparing for the day when dancers would be given their parts like actors.

Training Centre: Theory and Practice

To meet all these demands it was essential to set up an organisation which would undertake the training of choreologists, administer examinations in notation, and co-ordinate the work in all the branches of choreology now rapidly developing in various countries. So the Institute of Choreology was established in 1962, and moved into its own premises in 1965; these were opened by Miss Jennie Lee, Minister for the Arts, who made a speech which has since proved to be prophetic. I became director of the Institute, with Joan Benesh as principal, and a staff of experts in a variety of fields.

From long experience we realized that in the training of choreologists at the Institute, theory had to be closely integrated with practice. Notation is not something which can be learned in the abstract. The basic alphabet can be learned quite easily: what takes long training is the accurate analysis of the movements to be written down and the use of the most economic and simple "spelling" for them. In harmony with the principles of economy (redundancy-avoidance) which is fundamental to the whole notation, the detailed writing of any phrase of movement normally assumes that the reader is familiar with the style in question: in ballet, for example, one assumes that a dancer flexes the knees when landing from a leap, and does not record this flexion, while in Indian dancing one normally assumes that a foot in the air is flexed and not pointed (as in ballet). These are simple examples; classical dancing (Eastern or Western) is very complex, and in order to record and read in any technique the choreologist must have training

in that technique. So we arranged for the course of training of the student choreologists to include training in a number of dance techniques: ballet, modern dance, historical dance, folk dance and Indian classical dance, as well as in composition, music, art, anatomy and kinesiology (the anatomical study of the movements of the parts of the body).

The inclusion of the four main classical styles of Indian dance was dictated by a number of considerations. From the start, the Institute was conceived of as an international body, and the whole great world of Asian dance could not be ignored; since Indian dance traditions are by far the richest and oldest of all, and since the whole of Asian classical dance and dance-drama has been influenced by Indian classical dance and dance-drama, it seemed natural to include Indian dance in the curriculum. But even the proper study of Western ballet and modern-dance demands a knowledge of Asian dance, which has influenced it so deeply during the whole of this century: great choreographers like Antony Tudor and Martha Graham have been influenced by the dances of the East, and the choreologist must have the training necessary to cope with these movements.

Indian Dance Systems

This decision to include the classical dances of India in the curriculum posed a number of difficult problems. For these student-choreologists could not possibly study Indian dance in the traditional Indian way, attending on one chosen *guru* (specialist in one school of one style) for several hours a day and for years on end; and yet they had to learn to understand each style from the inside, with their bodies, and developing their kinaesthetic sense of the movements: otherwise they could never learn to analyse them correctly and write them accurately, with the right "spelling".

Fortunately a teacher was available who had the talent and the experience needed to cope with this very tricky problem. This was Marianne Balchin — or Mrinalini, as she is known when dancing with Indian companies. She began as a ballet dancer, but always had a strong affinity for Indian dance; when the Kathakali dancer Ananda Sivaraman (from the Kerala Kalamandalam) arrived in London to prepare a produc-

tion of the Kathakali dance-drama *King Rugmangadan*, he chose Marianne Balchin for the role of Mohini, training her in Kathakali technique and rehearsing her in the role. This was the first of many such experiences. When the Nritya Darpana Company led by Krishna Kutty and Shirin Vajifdar came to London, Marianne Balchin joined this company, and had training in Kathakali and Manipuri. Then Ram Gopal opened a school, and here Marianne Balchin had training in Bharata Natyam and the Jaipuri *gharana* of Kathak (the latter from Kumudini's *guru* Radhe Lal Misra), as well as dancing with the company. Later she continued to train and dance with other distinguished visitors from India.

Her teaching of Indian classical styles and folk dances to the student-choreologists at the Institute takes account of the fact that these students' experience of dance is entirely Western; moreover they can only spend a limited time each week on Indian dance, and never expect to perform it in public. So she analyses the movements far more than is customary in Indian teaching, adapting the methods used for teaching Western dancing to the teaching of Indian nuances of line, rhythm and style.

A number of fresh problems have been met with in the notating of the various Indian classical styles, and Joan Benesh has been working on these in collaboration with Marianne Balchin. One major problem, as with all forms of movement, is the development of the most economic, precise and generally satisfactory manner of "spelling" each pattern of movement. Once this ideal spelling is evolved, it can then be standardised internationally (as is done by the Institute in other movement fields).

Let us now see how the Benesh Movement Notation records any form of human movement, and Indian classical dance-movements in particular. Imagine a dancer seen from behind standing in the familiar Bharata Natyam pose at the beginning of an *alarrippu*; she stands against the five-line staff as if it were a wall (Fig. 1). The positions occupied by hands and feet are marked by dashes, indicating that they lie *in the plane of the wall.* If the limbs extend away from the wall, other signs are used — vertical strokes indicating positions in front of the wall, dots indicating positions behind the wall — and these mark the projection of these positions on to the plane of the wall (Fig. 2). When placed on the matrix these three signs or marks — dash, vertical stroke, dot — give

a complete and very accurate record of the positions of the limbs if these are straight. If limbs are bent, other signs derived from these are used to indicate the positions of elbows and knees on the matrix in the same way (Fig. 3).

We now have three basic signs showing extremities (hands or feet) and three signs derived from the first three signs showing elbows or knees if the limbs are bent: here in fact is the basic alphabet of the Benesh Movement Notation, with which any position of the limbs can be written, no matter how complex.

	Hands or Feet	*Elbows or Knees*
Level (with the body)	—	+
In front (of the body)	|	+
Behind (the body)	•	×

These signs are used to mark salient positions. The path of movement between the salient position is shown by movement lines. Movement in the plane of the body is shown by a simple line, ending with the basic sign for the salient position; movement in front of the plane is indicated by ticking the line, and movement behind the plane by putting a dot on the line, following the same convention as for basic signs.

Fig. 4 (part of an *adavu* from Bharata Natyam) shows how movement lines are combined with signs for salient positions, and how the successive movements are written from left to right along the staff in a series of imaginary square "frames". It also shows how inclinations of the head and trunk are shown in a visual way, as well as flexions of the wrist. (Flexions of the ankle are shown when necessary in the same way as those of the wrist.)

When a sign for a foot is placed below the "floor" line it shows that the foot is flat, while a sign on the line shows that only the toes are on the ground (Fig. 5).

Mudras are of course all-important in Indian dancing. This is a matter of some complexity, for the same *mudra* is called by different names in different styles, and the same name can mean something quite different in the different styles. The Benesh Notation avoids all this complexity of nomenclature in characteristic fashion by showing exactly how the fingers are placed and how the hand moves. Each finger is numbered starting from the little finger (5) and ending with the forefinger (2) the thumb being 6; the number 1 is not used to avoid confusion with the basic sign for a forward position. Marks indicate whether a finger is bent or straight, and, if bent, at which joint. Fig. 6, for example, shows Bharata Natyam's *mudra sikhara.*

P indicates hand; the dash below it shows that all four fingers are bent into the palm from the knuckle. "6" refers to the thumb and the dot above indicates that it is straight. Such a sign is written above the staff, at a position exactly over the basic sign for the hand to which it refers. (See Fig. 7, Bar 2).

In recording a passage of *abhinaya*, the notator writes the positions and movements of the hand, together with flexions of the wrist, on the five-line matrix of the staff. Above the staff he/she puts signs indicating the finger positions, so specifying the *mudras* in use; and he/she marks movements of facial features (eyes, eyebrows etc.) in much the same way (Fig. 7). The eye movements at the beginning of an *alarrippu* can be clearly seen in Fig. 9; also the side-to-side neck movements, shown in the space between the top two lines of the staff.

Though the notation normally assumes that the reader is trained in the technique in question, it does not show technical details which such a reader would take for granted. There are times when it is valuable to analyse a movement in great technical detail, and this is easily done (Fig. 8).

A very precise notation of rhythm is all-important in the notation of Indian dancing. The rhythmic syllables (*bols, solukattu* etc.) written above the staff indicate the basic drum and dance rhythms, and the *tala*

is divided up by bar lines into convenient sections, depending on the *tala* or *jati* in use.

There are signs for whole-beats, half-beats, quarter-beats and so on.

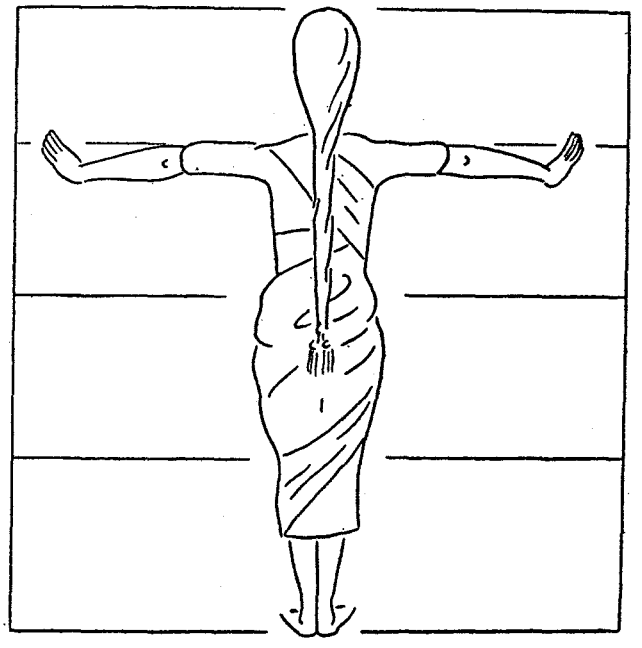
whole-beat *half-beat* *1st quarter-beat* *2nd quarter-beat*

Following the principle of economy (or redundancy-avoidance) the rhythm signs are written over the staff only when the rhythm does not flow in a regular, obvious manner, with a whole dance-beat coming on each beat of the music. In Fig. 7 an extract from a *sabdam* shows the whole-beats marked above the staff on the second and third beats of each cycle of seven beats. These beats are marked in this way because no movements are notated on these beats; the movements in fact continue smoothly over the first four beats, as shown by the legato phrase-marks.

The notation, assuming that the reader is familiar with the style in question, does not normally indicate that the foot is put down in such a way that the bells around the ankle make a clearly audible sound: this can be taken for granted. But when there is a contrast between a strong stamp and a soft setting-down of the foot, the strong stamp is indicated by an accent-triangle written above the staff at the appropriate position (Fig. 10). Notice the half-beat on the leftward movement of the head: the subsequent rightward movement of the head comes on the full beat (the fourth beat in the bar) and so is not marked.

With Kathak, the co-ordination of *bol* syllables and dance beats can be very intricate, and requires careful attention by the notator (who must in fact be able to perform the *toras* or *tukras* properly, in strict *tala*, if he or she is to record them correctly). Fig. 11 shows part of a *kavita tora* "*Murli ki...*"

Manipuri presents the choreologist with a number of specialized problems. One is the recording of the small intricate patterns of hand movements, and the subtle lyrical correlation of the rhythms of head-



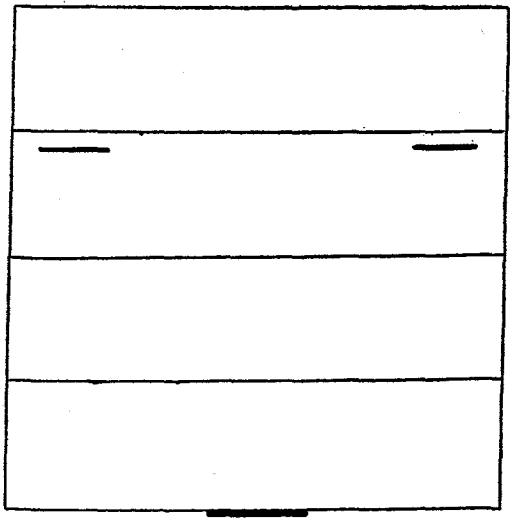
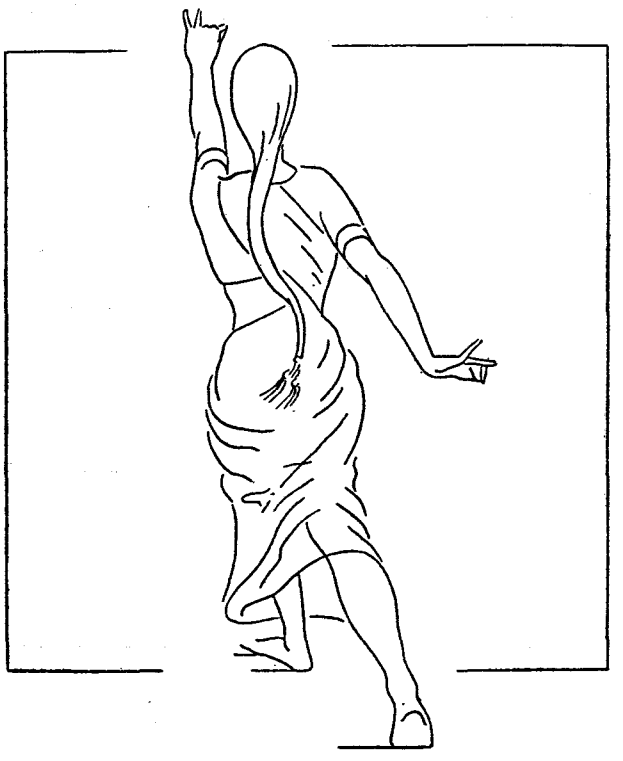


Fig. 1. The Five-line staff as a matrix for the human figure. (Standard opening position in Bharata Natyam alarrippu.)



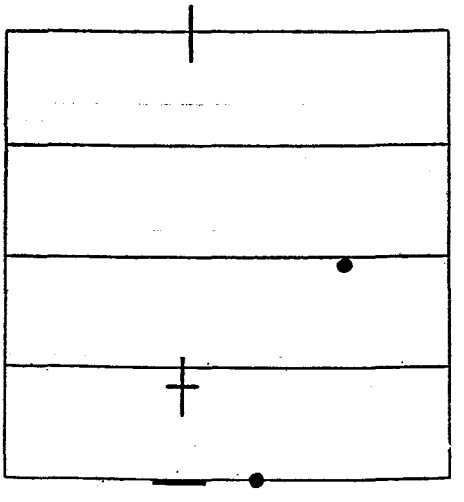
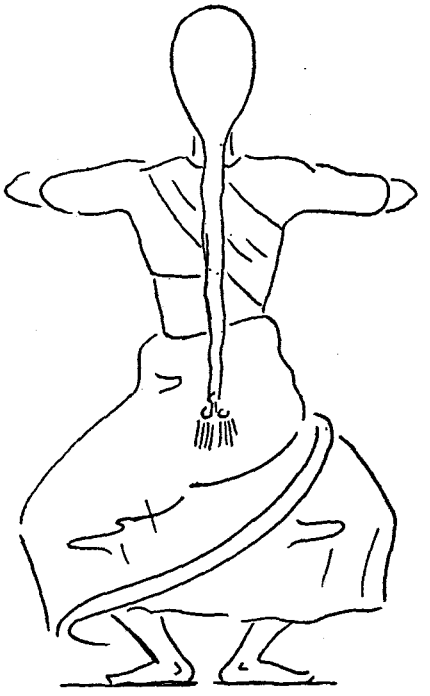


Fig. 2. Part of a Bharata Natyam adavu: left arm forward, right arm and right foot back. (The raising of the sign for the right foot to sit on the line indicates that the heel is raised, and the vertical stroke with a line through it shows the bent left knee; these signs will be explained whenever they are used).



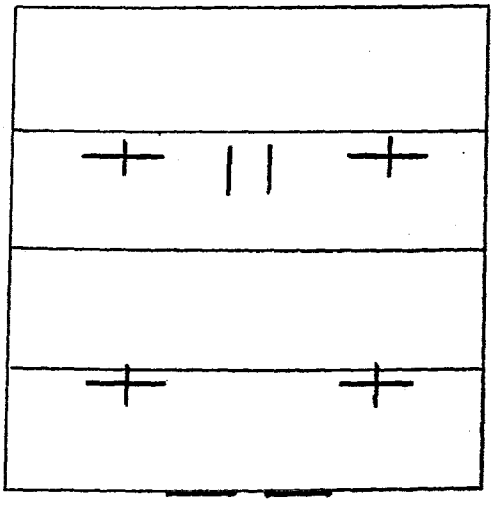


Fig. 3. Part of a Bharata Natyam adavu. Both knees and both elbows are marked with vertical strokes with lines through them. The two hands are close together in front of the chest.

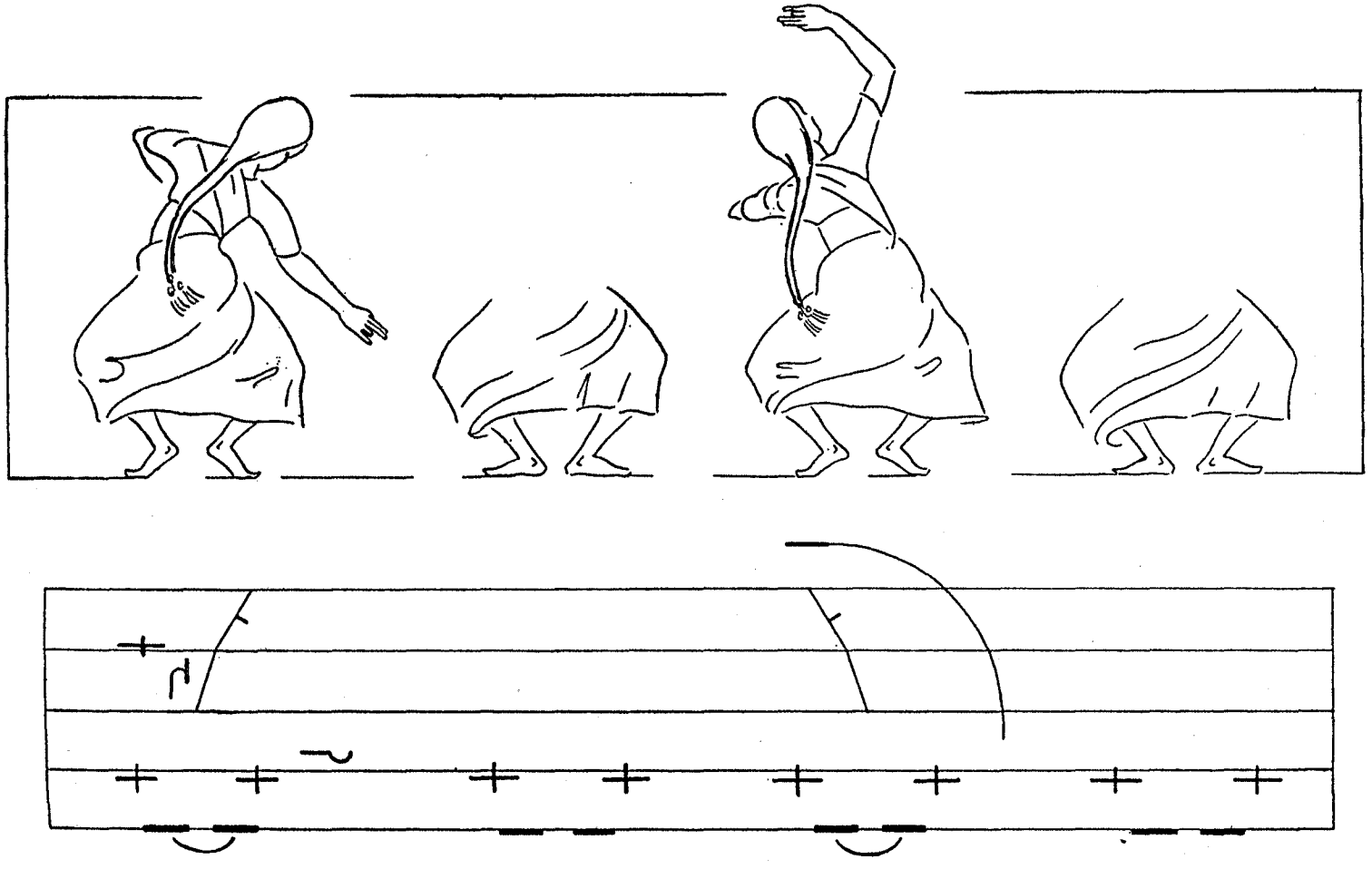


Fig. 4. Part of an adavu from Bharata Natyam. From the opening position with right hand down by the right side, the dancer lowers her heels, then carries her right hand in a circular sweep to a position over her head. The small curve below the staff indicates a little jump in place. The slanting line in between the top line and the second line indicates an inclination of the head to the left, and that between the second and third lines an inclination of the top half of the trunk to the left. The curves added to the basic hand signs for the opening position indicate direction and flexion of the wrist.

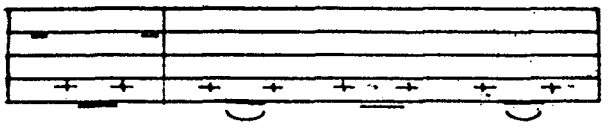


Fig. 5. Bharata Natyam foot exercise. The dancer stands with arms apart, knees bent and feet together, alternatively raising and lowering her feet (shown by placing the dash for the two feet below the bottom line and on it). Note that the positions of hands are shown only at the beginning of the exercise; the fact that they are not subsequently shown indicates that they remain the same.

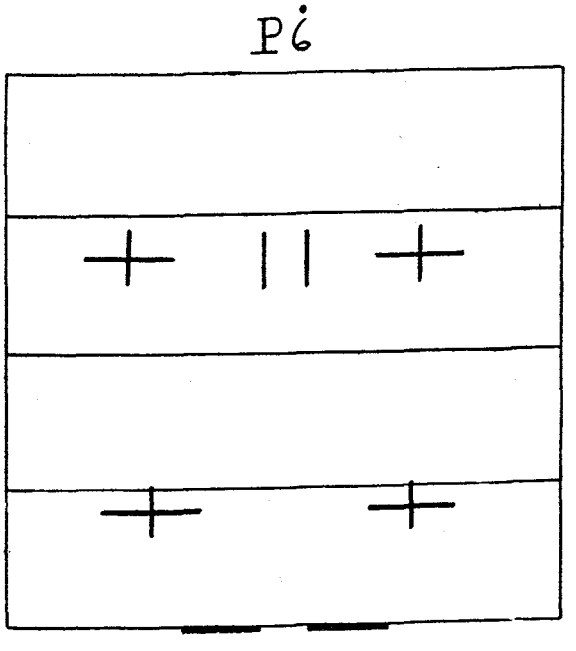


Fig. 6. Bharata Natyam mudra Sikhara.

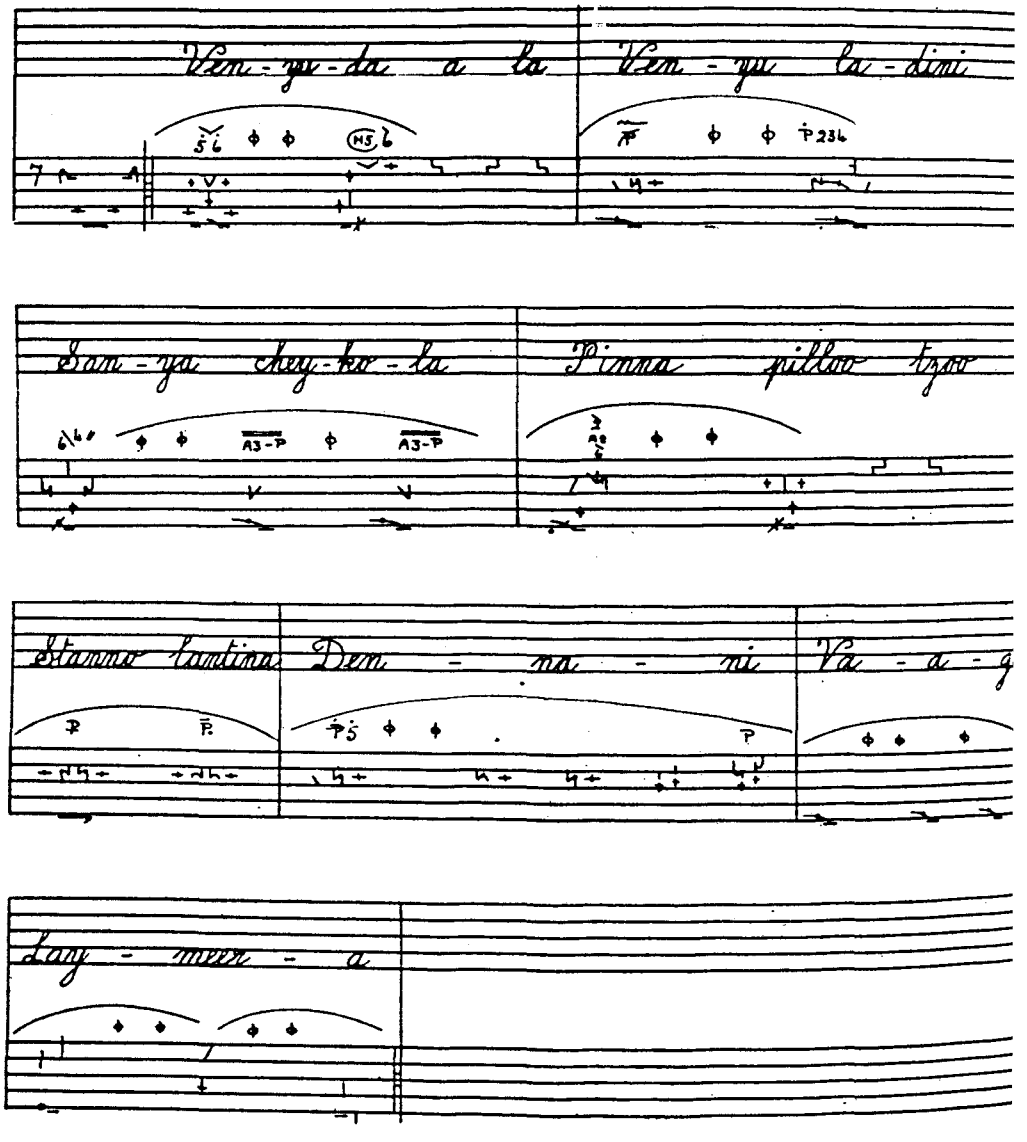


Fig. 7. Abhinaya in a Bharata Natyam sabdam. Excerpt from sabdam "Venyuda". Raga Kambodi. Language Telugu. As taught by Krishna Rao from Meenakshi Sundaram Pillai.

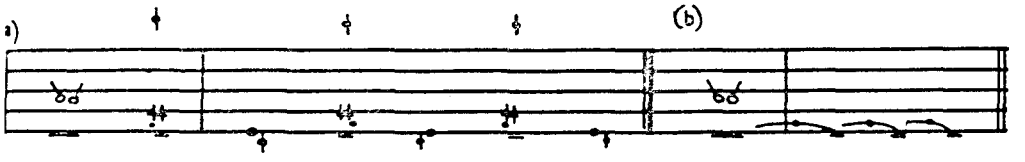


Fig. 8. Bharata Natyam walking-backward step, (a) analysed in detail (b) written in normal condensed form.

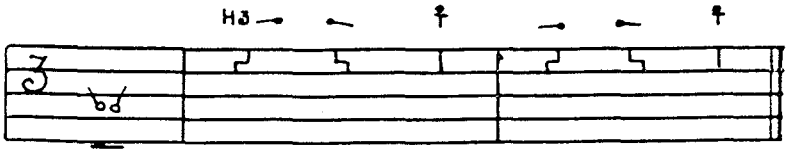


Fig. 9. Opening of a Bharata Natyam alarrippu, showing neck and eye movements.

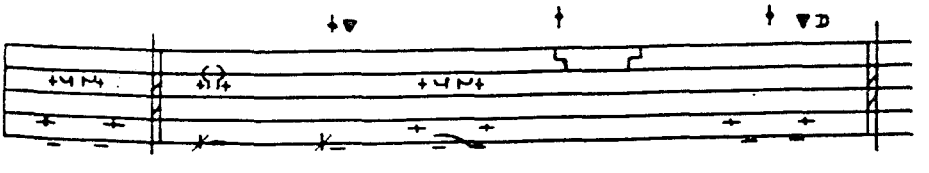


Fig. 10. Kathakali Sari Dance. The opening position shows the feet astride with knees bent, hands in front of chest and fingers straight. The step has a lilting quality, the right foot crossing in front of left foot as they rise on to the balls of the feet.

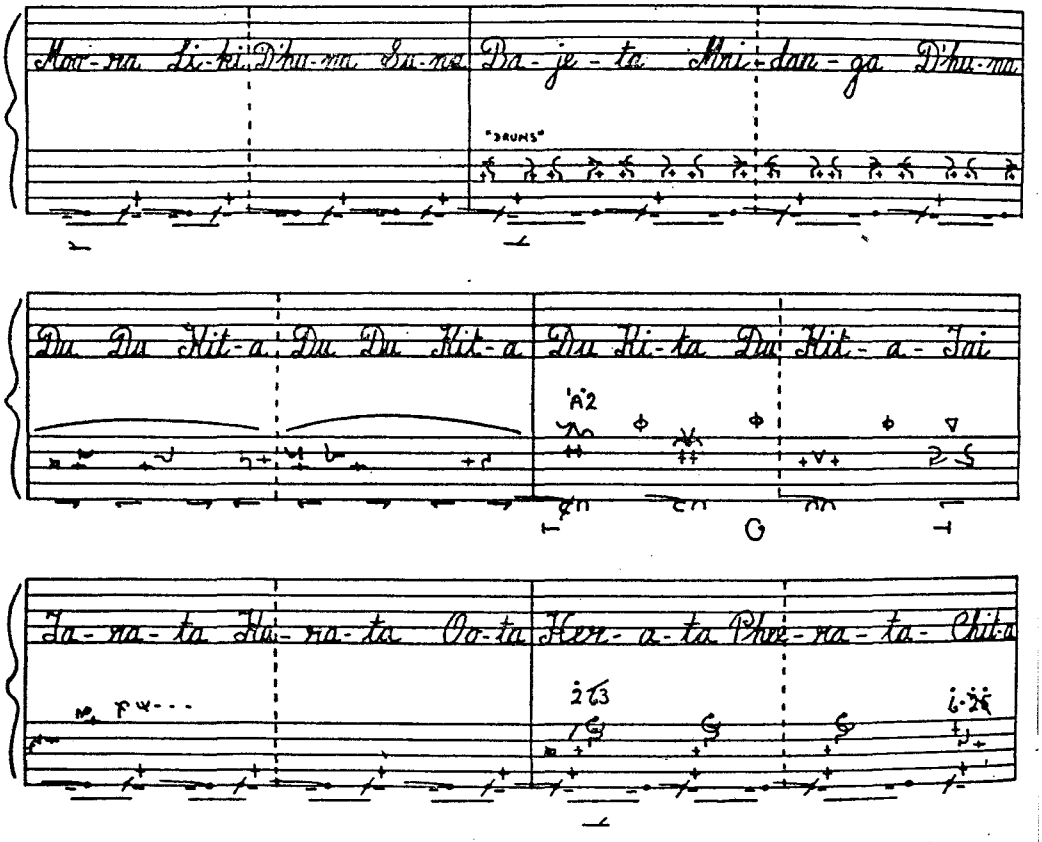


Fig. 11. *Kathak tora showing the opening passage written in a staff correlating the bol syllables with the rhythm of the dance.*

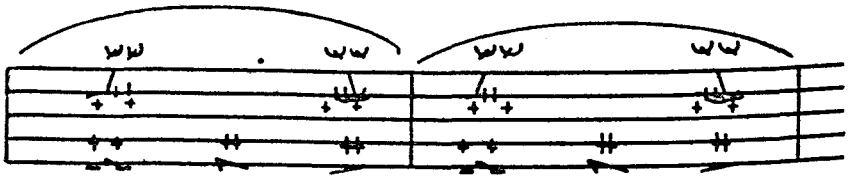


Fig. 12. *Manipuri Dance. The illustration shows small sideways steps with the hands swaying in front of the head, which is also moving from side to side.*

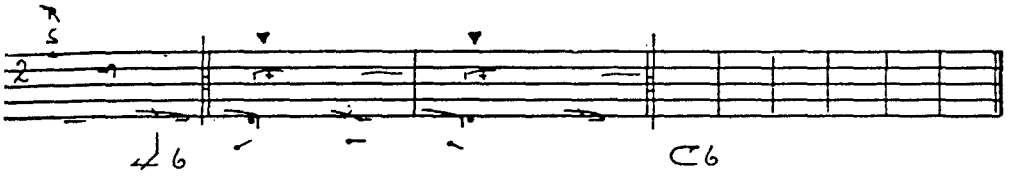


Fig. 13. Folk Dance from Kerala. Six maidens enter from the right in file and circle the working area. The left arm gesture depicts the carrying of a water jar on the head, while the right arm swings towards and away from the body. The first two bars are repeated over and over again.

rolling and gait. (Fig. 12). The complex waves of movement of the fingers can easily be analysed with the aid of the finger notation. The lateral movements of the hands are shown above the staff.

In Indian folk-dances the group notation becomes very important. If there are soloists or groups performing different steps simultaneously these are shown on separate staves, and correlation is maintained between each group and also between the groups and the music by bar lines running down the page. Dancers performing in unison need only one staff. (Fig. 13).

Though the main problems involved in notating Indian classical and folk dances have been solved, only a beginning has been made with the vital and urgent task of notating India's rich choreographic heritage: this can only be done by choreologists in India, working full-time on the task and travelling to the main centres of each style. The making of such a record would not only save this great treasure in all its richness: it would also make possible the detailed comparative study of all the different forms — with each other, and with the other comparable forms in other countries influenced by Indian dance.

It is sometimes thought that film can be used as a record of dance; but experience has shown that this is not the case. In fact, film has its own great value, being the equivalent of a tape recording of music; but neither are a substitute for a score, which is essential for detailed study and comparative analysis. Film can indeed be of great value as a stage in the preparation of a choreographic score, if it is specially shot for this purpose; in fact the Institute of Choreology is now collaborating with

the Institute fur Wissen-schaftlichen Film (German Scientific Film Institute) in a joint research project to determine the best method of shooting and using film of traditional dances as one stage in the preparation of a choreographic score. This is of course a rather expensive and cumbersome way of preparing a choreographic score: very valuable when funds permit, but not the method of choice in all circumstances.

Rudolph Benesh F.C.A. is the Director of The Institute of Choreology, London. He is the innovator of the Benesh system of Dance Notation and, along with Joan Benesh — herself a professional ballet dancer and now Principal of the Institute has developed a complete and flexible system of dance notation which can be applied to any system of dance. Marianne Balchin of the Asian Department of the Institute and a dancer trained in schools of classical Indian dance, co-operated to make possible the first attempt at notating Indian dance. The work of the Institute has also been applied in physiotherapy in noting the movements of spastic children and research is being conducted in to its possible aid in neurology.